

Reminder!!

Respond to Polling Questions:

1. Scan the QR code using your mobile device or;
2. Type the following link into any web browser:

bit.ly/3o3HWXI



Question: 1

Is it necessary to develop new splice designs in order to enable machine-assisted splicing? What could a new splice or accessory look like?

Question: 2

Is aiming for a 70% decrease in total man hours per splice, a 50% reduction in total splicing time, and a >98% success rate (based on 'to be established' pass/fail criteria) in a 3-year project (average ARPA-E project timeline) a reasonable target? Are there any other potential metrics we should consider (please be specific and quantitative)?

Question: 3

How should we test a newly completed splice in order to improve the reliability and hence effectively extend the service life of an underground power system? How is it tested today?

Question: 4

Would machine-assisted splicing potentially change the requirements for the underground joining box (manhole-vault)? To what extent could this result in a reduction in the size of such underground space?

Question: 5

Is aiming for semi-automated, single-core to single-core cable splicing (using a nominal cable discussed during the Day 1 breakout session) too easy/reasonable/aggressive in a 3-year R&D project (average ARPA-E project timeline)? What are some of the most recent technological improvements in underground MV cable splicing (e.g. 3-phase main feeder with solid-state dielectric)?

Question: 6

What are the typical steps involved (both above ground crews and underground crews) in underground power cable splicing?

Poll Question: 1

What are the top three priority technologies in need of research funding to transform today's power cable splicing?

- a) new splice design,**
- b) advanced manual tools,**
- c) automated splicing,**
- d) sensors/diagnostic tools,**
- e) Others (please describe)**

Poll Question: 2

What are the top three priority technologies in need of research funding to transform today's power cable splicing?

- a) new splice design,**
- b) advanced manual tools,**
- c) automated splicing,**
- d) sensors/diagnostic tools,**
- e) Others (please describe)**

Poll Question: 3

Approximately how many total man hours are required today to splice a 3-phase underground main feeder?

- a) 5 – 10 hours**
- b) 10 – 20 hours**
- c) 20 – 30 hours**
- d) Over 40 hours**

Poll Question: 4

Which parts of the splicing process could be automated to reduce errors?

- a) Ground and check continuity**
- b) Remove jacket, semiconductor, & insulations layers**
- c) Prep ground shield**
- d) Prep conductors**
- e) Install splice**
- f) Crimp conductors**
- g) Insulate conductors**
- h) Connect ground shields**
- i) Insulate ground shields**
- j) Check integrity of splice**
- k) Others (please describe)**

Poll Question: 5

How frequently does a new splice in an existing underground power distribution circuit need to be replaced if they are installed correctly?

- a) 10 years**
- b) 50 years**
- c) 100 years**
- d) Other?____**

Poll Question: 6

What is the greatest value for utility companies to automate splicing and reduce errors in underground cable insulation? (rank or select multiple)

- a) Increased worker safety by lowering total man hours spent in the manhole**
- b) Reduce the overall number of man hours required to enhance splicing efficiency**
- c) Increase splicing quality by performing some processes with a machine capable of executing jobs with great accuracy and reproducibility**
- d) Enhance cable splice reliability by implementing advanced on-site inspection after each splicing job**
- e) Extend the overall service life of subterranean assets**
- f) Other values (please describe)**